



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/715,308

11/17/2003

Michael G. Robinson

95121961.029004

5120

23562

7590

03/08/2005

BAKER & MCKENZIE  
PATENT DEPARTMENT  
2001 ROSS AVENUE  
SUITE 2300  
DALLAS, TX 75201

EXAMINER

SCHECHTER, ANDREW M

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/715,308

**Applicant(s)**

ROBINSON ET AL.

**Examiner**

Andrew Schechter

**Art Unit**

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 42-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 42-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/20/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 42, 43, 45-49, 51-53, and 55 are rejected under 35 U.S.C. 102(e) as being anticipated by *Brennesholtz*, U.S. Patent No. 6,280,034.

*Brennesholtz* discloses [see Figs. 2 and 7, for instance] a method of modulating an input light beam, the input light beam comprising a first, second, and third primary color, the method comprising: receiving the input light beam at a polarization stack filter [82, also see Fig. 2] that comprises a stack of birefringent layers [1, 1', 1'', 3, 3', 3''] and at least one active liquid crystal cell [2, 2', 2''], the polarization stack filter receiving at least the first [green] and second [blue] primary colors of the input light beam and operable to temporally modulate the polarizations of the first and second primary colors by imparting a polarization to the first primary color that is different than the polarization of the second primary color [see col. 9, lines 10-61; as the polarizing color shutter 82 cycles through the colors, during a first period green is rotated, then in a second period blue is rotated, while red remains un-rotated in both periods]; receiving the input light

Art Unit: 2871

beam at a beam-splitting element [PBS #1], the beam-splitting element operable to direct the first and second primary colors in a first direction [to LCD #2] according to the modulation of the polarization stack filter [whichever color is rotated to s-polarization gets sent in the first direction] and to direct the third primary color [red] in a second direction [to LCD #1, since red is un-rotated in the two periods above]; sequentially receiving the first and second primary colors at a first panel [LCD #2] and sequentially modulating the first and second primary colors [col. 9, lines 38-39]; receiving the third primary color at a second panel [LCD #1] and modulating the third primary color; and combining [at PBS #4] the light of the sequentially modulated first and second primary colors with the light of the third modulated primary color to form an output full-color modulated light beam. Claim 42 is therefore anticipated.

*Brennesholtz* discloses [as above] a two-panel color modulation device as recited in claim 48, so claim 48 is also anticipated.

The third primary color is red, so claims 43 and 49 are also anticipated. The beam-splitting element comprises a polarizing beamsplitter, so claim 45 and 51 are also anticipated. During a first time [first period above] the first primary color [green] has a first polarization [s] and the second primary color [blue] has a second polarization [p], and during a second time [second period above] green is p and red is s, so claims 46 and 52 are also anticipated. During the first time the polarizing beamsplitter [PBS #1] directs green to the first panel and during the second time it directs blue to the first panel, so claim 47 and 53 are also anticipated. The light source 81 provides polarized

white light [col. 9, lines 10-11], so there is a polarizer before the beam-splitting element, so claim 55 is also anticipated.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 44, 50, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Brennesholtz*, U.S. Patent No. 6,280,034 as applied above, and further in view of *Rosenbluth*, U.S. Patent No. 6,636,276.

*Brennesholtz* does not explicitly disclose using liquid crystal on silicon [LCOS] panels as the first and second panels. *Rosenbluth* discloses an analogous device and teaches using LCOS panels, saying that they "are expected to become the lowest cost light valve technology" for various applications [col. 1, lines 17-21]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use LCOS panels in the device of *Brennesholtz*, motivated by the above teaching of *Rosenbluth*. Claims 44 and 50 are therefore unpatentable.

*Brennesholtz* does not explicitly disclose a clean-up polarizer after the beam-splitting element. *Rosenbluth* discloses a clean-up polarizer [3600, along with a wavelength selective retarder 3500] on the output of the analogous device. It would have been obvious to one of ordinary skill in the art at the time of the invention to use

such a clean-up polarizer in the device of *Brennesholtz*, motivated by *Rosenbluth's* teaching that a "residual dark-state light is then substantially reduced by a linear polarizer" [col. 16, lines 8-14], that is, the quality of the image is improved. Claim 54 is therefore unpatentable.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

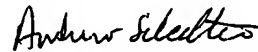
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

Art Unit: 2871

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Andrew Schechter  
Patent Examiner  
Technology Center 2800  
4 March 2005